Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

2. *Histology.*—The outer body-wall of the Echinorhynchi consists of four layers: a very thin *cuticula*, a thick *subcuticula*, an *outer muscular layer* (circular fibers), and an *inner muscular layer* (longitudinal fibers).

The subcuticula, which constitutes by far the larger portion of the body-wall, is a complicated web of muscular fibers, in which may be distinguished an inner and an outer zone. The inner zone, lying next to the layer of circular muscle-fibrils, is made up of radial fibers united into bundles. These bundles have the shape of sheaves, the fibers spreading at the ends, but drawn closer together at the middle, so as to leave a system of spaces or canals. Two longitudinal canals are thus formed, having in some species a lateral position, in others a dorsoventral position; and these main trunks are connected by a net-work of anastomosing canals. This system of vessels is filled with a clear fluid, in which numerous granules, resembling oil spherules, together with large nuclei, are suspended. The wall of these vascular spaces consists of radial muscle-fibers alone, showing no indication of a lining epithelium. Sæfftigen thinks that the canal-system of the anterior end, including the lemnisci, does not communicate with that of the rest of the body.

The outer zone of the subcuticula is made up of alternating strata of longitudinal and circular fibers, and is not penetrated by the canal-system. The radial fibers of the inner zone penetrate this outer zone, and reach to the cuticula. Between this outer zone and the cuticula is found a layer which Baltzer has called the "*Streifencuticula*," and which has hitherto been regarded as an inner cuticula. Sæfftigen has brought forward pretty conclusive evidence that this layer is not cuticular, but muscular; and he holds that it is merely a bounding zone of the subcuticula, in which the muscular fibers are more closely packed than in the so-called "outer zone" of the subcuticula. The subcuticula presents essentially the same features in the proboscis and neck as in the body proper.

——:o:——

SCIENTIFIC NEWS.

— The meeting of the British Association at Montreal was an extremely interesting one and very largely attended; while the interest was mainly centered upon topics pertaining to physics, the proceedings of the sections of geology and of biology were notable. The section of geology was presided over by Dr. Blanford; fifty-one papers were presented. Aug. 29th was given to essays and debates on glacial phenomena, in the course of which Professor James Geikie expressed his inability to draw any sharp line between moraines and kames, as they merge into each other so that one cannot say where one leaves off and the other begins. Kames he regarded as partly morainic and partly of subglacial origin. Debates on the archæan rocks, and the eozoön, were opened by Professor Bonney. The most fresh and interesting palæontological essay was that of Mr. G. F. Matthews on the primitive Conocoryphean.

The section of biology was presided over by Professor Moseley, of Oxford, whose opening address was on the physiology of deep-sea life. A paper by Mr. C. Spence Bate, of Plymouth, England, on the geographical distribution of the macrurous Crustacea, led to a discussion in which Professor Moseley remarked that deep-sea Crustacea either had very large eyes or were eyeless, and that there must be a source of light in the deep sea, that source, he claimed, was phosphorescence, but its light must be very dim.

An abstract of Dr. Sollas' paper on the origin of fresh-water faunas has already appeared in this journal. Papers by G. E. Dobson on the geographical distribution of the bats, and by H. Saunders on that of the gulls and terns (Laridæ) was followed by an essay by Professor Gray on the distribution of plants, wherein he called attention to the resemblances and differences between the flora of North America and that of Europe.

A telegram was received from Mr. W. H. Caldwell announcing his discovery that the Monotremata (whether the Ornithorhynchus or Echidna was not stated) are oviparous, while its development is meroblastic as in reptiles. This is certainly the most remarkable zoölogical discovery of the year.

Professor A. Milnes Marshall read a paper on the mutual relations of the recent groups of Echinoderms, with especial reference to their nervous systems; his results we shall present hereafter. Other communications we shall notice in a later number.

— The Chesapeake Zoölogical Laboratory of the Johns Hopkins University was opened for research, at Beaufort, North Carolina, from June 1st to September 19th, and its facilities were used by ten naturalists. Owing to the illness of the director, Professor W. K. Brooks, he was able to spend only one month at the laboratory, and it was, for two months, in charge of H. W. Conn, Ph. D., professor of zoölogy at the Wesleyan University, Middletown, Conn. The experiment, of a year since, in Chesapeake bay, has demonstrated that Beaufort is the best available locality for work. The building at Beaufort furnishes accommodations for only six persons, and as the party of ten crowded it so much as to hamper the work the director was compelled to refuse several applicants.

— M. Bertrand, the Secretary of the French Academy of Science, recently made the important announcement that England had joined the International Commission, which meets once a year at Paris, to consider the metric system. Thus England sets itself in accord with the ideas of all Europe, and in the near future will make the French system obligatory. This decision, taken by England at the last moment, that is to say at the opening of the

International Congress at Washington which is to determine a common prime meridian, is not, perhaps, an absolutely disinterested one. England desires the ratification of the decision of the Scientific Congress held last year at Rome, which adopted the meridian of Greenwich.—*Exch.*

— A useful pamphlet is Mr. John A. Ryder's tract "On the preservation of embryonic materials and small organisms, together with hints upon imbedding and mounting sections serially. Extracted from the annual report of the Commissioner of Fish and Fisheries for 1882." The principal object of this essay, says the author, is to afford directions to collectors desiring to preserve the embryos of the lower vertebrates, fishes and amphibians in such a condition as will enable the investigator to use them in his researches. "As ordinarily preserved in alcohol such objects are next to worthless, either for figuring or dissection, as well as totally useless for microscopic preparations."

— The U. S. Geological Survey is engaged in a bibliography of North American geology. The work when completed will give the title of each paper with the title-page of the containing book, and the number of plates, the whole being arranged alphabetically by authors. It is also intended to prepare at the same time a number of more restricted bibliographies, each covering a division of geological literature. The plan includes abbreviated titles of papers with references to the pages on which the special subjects are treated, the entries in each bibliography being arranged alphabetically by authors.

— The editor of *Papilio* announces "that unless a more self-sacrificing and less impecunious and business-like editor can be found, *Papilio* will probably cease to exist at the end of this year." We hope that relief will be sent to the editor and publisher, Mr. Eugene M. Aaron, lock box 916, Philadelphia, Pa., and would add *apropos* of entomological journals in this country, that if the three now published could be consolidated into one, it would be better in all respects. We still need a well sustained entomological journal, such as ornithologists possess in the *Auk.*

— At the meeting of the Entomological Club of the American Association Adv. Science, at Philadelphia, Dr. Horn called attention to the historical associations connected with the place in which the club then met. "On that very spot, in the old Museum of Natural History, Thomas Say, poor in pocket, though rich in brain, put up his bed under the skeleton of some large mammal, and this for months was his only home. There also he contracted the illness which resulted in his death."

— The Museum of Comparative Zoölogy has published the third in its series of bibliographies to accompany "Selections from embryological monographs, compiled by Alexander Agassiz, Walter Faxon and E. L. Mark." This part is a bibliography of Acalephs, by J. Walter Fewkes, and bears date of July, 1884.

This series, with its admirable illustrations, are most useful adjuncts both for the beginner in zoölogy as well as the working embryologist.

—During the quarter ending September 1st, 13,796 persons have visited the museum of the Peabody Academy of Science, the largest number on any one day being 456 July 1st, the day Barnum's circus was in Salem. The most important accession to the museum has been a collection of lemur skins from Madagascar.

—C. H. Gilbert has been appointed Professor of Biology in the University of Cincinnati in the place of Professor W. G. Wetherby resigned. Joseph Swain takes the place of Professor Gilbert as assistant professor in the University of Indiana.

—George Bentham, the distinguished English botanist, died Sept. 10 at the age of 84. His Hand-book of the British Flora was widely used in Great Britain, while Hooker and Bentham's Genera Plantarum, finished a year ago, made his name familiar to botanists the world over. His work in systematic botany has extended over half a century, beginning in 1825.

:o:

PROCEEDINGS OF SCIENTIFIC SOCIETIES.

Academy of Natural Sciences Philadelphia, March 27, 1884.—Professor Lewis reported the discovery of itacolumite at two localities in Pennsylvania, one in Lancaster county, the other near Spring Mills, on the Schuylkill. He believed the itacolumite to be identical with the Potsdam sandstone. Mr. Hotchkiss gave details respecting the coal mine at Pocahontas, where 114 miners were recently killed by an explosion, and suggested that the dry coal dust in the air of the mine, by mingling with the gases of the gradually rising galleries, may have been the cause of the catastrophe.

April 3.—Dr. Leidy called attention to the existence of a reef of *Serpula dianthus* at Barnegat bay. Mr. Ford reported the finding of several specimens of *Mellita testudinaria* on Anglesea beach, N. J.

April 10.—Dr. D. G. Brinton was inaugurated as professor of ethnology and archæology, and delivered a lecture on prehistoric man in America. After giving due weight to all objections, the lecturer argued that there was evidence in favor of the presence of man upon this continent long anterior to any historic date of the old world. The origin, development and history of the native American race must, therefore, be studied separately, without any attempt to identify it with any race of the eastern hemisphere. The common origin must be placed very far back.

April 17.—Dr. C. Dolley suggested with regard to the so-called parenchymatous digestion of Salpa and Auchenia, an interpretation totally different from the one usually received. The